

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 1999		
BUDGET ACTIVITY 3 - Advanced Technology Development				PE NUMBER AND TITLE 0603723F Environmental Engineering Technology				PROJECT 2103		
COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
2103 Environmental Quality Technology	3,562	2,579	0	0	0	0	0	0	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

Note: In FY 1998, Project 2103, Environmental Quality Technology, and Project 3037, Noise and Sonic Boom Impact Technology, are combined within Project 2103, Environmental Quality Technology. In FY 1999, the Noise and Sonic Boom Impact Technology portions of Project 2103 are eliminated.

(U) **A. Mission Description:** This Advanced Technology Development program develops and demonstrates advanced technologies to address Air Force-unique environmental compliance, site remediation, and pollution prevention problems. Specific projects develop and demonstrate advanced technologies to reduce hazardous emissions from weapon systems, minimize Air Force industrial waste, eliminate toxic pollutant releases from Air Force operations as directed by the National Environmental Policy Act, and solve environmental reclamation problems. Improving these capabilities aids the Air Force in maintaining environmental quality, preparing timely responses to public concerns, preparing accurate environmental impact statements, and minimizing unfavorable legal challenges to Air Force operations.

(U) **FY 1998 (\$ in Thousands):**

- (U) \$ 828 Demonstrated technologies and design criteria for monitoring, characterization, assessment, process control, and disposal to reduce environmental impact of Air Force operations by evaluating chemical fate and environmental transport of Air Force compounds; initiating development of immunochemical systems to provide inexpensive, accurate, and robust measurements of Air Force toxic wastes; and initiating adaptation of environmental sensor networks to monitor air toxicity.
- (U) \$1,594 Demonstrated technologies to reduce/destroy wastes and reduce contamination of the environment by Air Force materials and operations to comply with the Clean Air Act. Continued development of a recirculating paint booth with biofilter and Volatile Organic Compounds (VOCs) emissions control technology and developed chemical/physical processes to treat oil/water wastes, emulsions, and aqueous film forming foam (AFFF) in waste water.
- (U) \$1,140 Conducted study to determine the effect of animal sleep-disturbance habituation from aircraft noise. Characterized the habitat of marine mammals exposed to military aircraft noise and developed baseline noise levels for Air Force use. Completed and transitioned the Assessment System for Aircraft Noise (ASAN) to Air Force Center for Environmental Excellence and Air Combat Command.
- (U) \$3,562 Total

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<p>(U) <u>FY 1999 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> - (U) \$ 732 Develop and demonstrate technologies and design criteria for monitoring, characterization, assessment, process control, and disposal to reduce environmental impact of Air Force operations by integrating real-time Dense Non-Aqueous Phase Liquid (DNAPL) sensing instrumentation with horizontal directional drilling technology. Complete development and demonstration of protocol for intrinsic remediation of DNAPLs. - (U) \$1,590 Develop scientific and engineering tools to reduce weapon system sustainment costs by initiating integration of energy generation and water recovery unit operations with treatment systems for Air Force operations, including Air Logistics Centers. - (U) \$ 200 Demonstrate technologies to reduce/destroy wastes and reduce contamination of the environment by Air Force operations and to comply with the Clean Air Act by completing development of the recirculating paint booth with biofilter. - (U) \$ 57 Identified as a source for SBIR. - (U) \$2,579 Total <p>(U) <u>FY 2000:</u> Not Applicable</p> <p>(U) <u>FY 2001:</u> Not Applicable</p> <p>(U) B. Budget Activity Justification: This program is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates advanced technologies to address Air Force-unique environmental problems.</p>		
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<p>(U) C. <u>Program Change Summary (\$ in Thousands):</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="text-align: right; width: 10%;"><u>FY 1998</u></th> <th style="text-align: right; width: 10%;"><u>FY 1999</u></th> <th style="text-align: right; width: 10%;"><u>FY 2000</u></th> <th style="text-align: right; width: 10%;"><u>FY 2001</u></th> <th style="text-align: right; width: 10%;"><u>Total Cost Cont</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget/FY 1999 PB</td> <td style="text-align: right;">3,786</td> <td style="text-align: right;">2,663</td> <td style="text-align: right;">3,202</td> <td style="text-align: right;">1,431</td> <td></td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">4,084</td> <td style="text-align: right;">2,663</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td style="text-align: right;">-217</td> <td style="text-align: right;">-84</td> <td></td> <td></td> <td></td> </tr> <tr> <td> b. SBIR</td> <td style="text-align: right;">-64</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus/Other Above Threshold Reprogrammings</td> <td style="text-align: right;">-26</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogrammings</td> <td style="text-align: right;">-215</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Year Since FY 1999 PB</td> <td></td> <td></td> <td style="text-align: right;">-3,202</td> <td style="text-align: right;">-1,431</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/ FY 2000 PB</td> <td style="text-align: right;">3,562</td> <td style="text-align: right;">2,579</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">Cont</td> </tr> </tbody> </table> <p>(U) Significant Program Changes: Changes to this program since the previous President's Budget are due to higher priorities within the Science and Technology (S&T) Program.</p> <p>FY 1999: \$57 identified as a source for SBIR.</p>							<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost Cont</u>	(U) Previous President's Budget/FY 1999 PB	3,786	2,663	3,202	1,431		(U) Appropriated Value	4,084	2,663				(U) Adjustments to Appropriated Value						a. Congressional/General Reductions	-217	-84				b. SBIR	-64					c. Omnibus/Other Above Threshold Reprogrammings	-26					d. Below Threshold Reprogrammings	-215					(U) Adjustments to Budget Year Since FY 1999 PB			-3,202	-1,431		(U) Current Budget Submit/ FY 2000 PB	3,562	2,579	0	0	Cont
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<p>(U) D. <u>Other Program Funding Summary:</u></p> <p>(U) <u>Related Activities:</u></p> <ul style="list-style-type: none"> - (U) PE 0602102F, Materials. - (U) PE 0602202F, Human Effectiveness Applied Research. - (U) PE 0602203F, Aerospace Propulsion. - (U) PE 0603112F, Advanced Materials for Weapon Systems - (U) PE 0603211F, Aerospace Structures. - (U) PE 0603231F, Crew Systems and Personnel Protection Technology. - (U) PE 0603716D, Strategic Environmental Research and Development Program. - (U) PE 0603851D, Environmental Security Technology Certification Program. - (U) PE 0604706F, Life Support Systems. - (U) PE 0604708F, Other Operational Equipment. - (U) This project has been coordinated through the Reliance process to harmonize efforts and eliminate duplication. <p>(U) E. <u>Acquisition Strategy:</u> Not Applicable.</p> <p>(U) F. <u>Schedule Profile:</u> Not Applicable.</p>		
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